

AMENDMENTS TO THE CLAIMS

Claim 1. (Previously Presented)

A method for storage of non-sequential data, comprising:

coding the non-sequential data to a coding pattern, the coding pattern comprising subsequences of at least one sequence with symbols which has the characteristic that an arbitrary subsequence of a predetermined magnitude of the sequence is unique within the sequence and unambiguously defines a position of the subsequence in the sequence; and

reproducing the coding pattern on a product.

Claim 2. (Previously Presented)

The method of claim 1 further comprising:

converting the non-sequential data into a set of data values, arranging the coding pattern so as to comprise sequence portions of said at least one sequence, said sequence portions being at least of the same magnitude as the subsequences of a predetermined magnitude, so that each of the data values is coded by a group each of at least two sequence portions in the coding pattern.

Claim 3. (Previously Presented)

The method of claim 1 further comprising:

converting the non-sequential data into a set of data values, arranging the coding pattern so as to comprise sequence portions of said at least one

sequence, said sequence portions being of the same magnitude as the subsequences of a predetermined magnitude, so that each of the data values is coded by one sequence portion in the coding pattern.

Claim 4. (Original)

The method of claim 2, wherein the non-sequential data is coded with only one sequence, wherein the position of a subsequence in the sequences constitutes a sequence value, and wherein a relationship between the sequence values from different sequence portions defines the data values.

Claim 5. (Original)

The method of claim 4, wherein each of the data values is defined by a difference between the sequence values for two subsequences from different sequence portions.

Claim 6. (Previously Presented)

The method of claim 5, wherein the sequence portions are juxtaposed in the coding pattern to form a matrix in such manner that each of the data values is defined by a difference between the sequence values of two adjoining subsequences from corresponding parts of the sequence portions in the coding pattern.

Claim 7. (Original)

The method of claim 6, wherein the sequence portions also code at least part of a position value which defines a serial number of the sequence portion.

Claim 8. (Original)

The method of claim 1, wherein the non-sequential data comprises characters and wherein the characters are converted into data values.

Claim 9. (Original)

The method of claim 1, wherein the non-sequential product comprises at least one of the following: a sheet of paper, a book cover, a page of a book, a magazine cover, a magazine page, a newspaper page, and a bulletin board.

Claim 10. (Previously Presented)

A system for the storage of non-sequential data, comprising:

a component for coding the non-sequential data to a coding pattern, the coding pattern comprising subsequences of at least one sequence with symbols which has the characteristic that an arbitrary subsequence of a predetermined magnitude of the sequence is unique within the sequence and un-ambiguously defines the position of the subsequence in the sequence; and

a component for reproducing the coding pattern on a product.

Claim 11. (Previously Presented)

The system of claim 10 further comprising:

a component for converting the non-sequential data into a set of data values, and a component for arranging the coding pattern so as to comprise sequence portions of said at least one sequence, said sequence portions being at least of the same magnitude as the subsequences of a predetermined magnitude, so that each of the data values is coded by a group each of at least two sequence portions in the coding pattern.

Claim 12. (Original)

The system of claim 11, wherein the non-sequential data is coded with only one sequence, wherein a position of a subsequence in the sequences constitutes a sequence value, and wherein a relationship between the sequence values from different sequence portions defines the data values.

Claim 13. (Original)

The system of claim 12, wherein each of the data values is defined by a difference between the sequence values for two subsequences from different sequence portions.

Claim 14. (Original)

The system of claim 13, wherein the sequence portions are juxtaposed in the coding pattern to form a matrix in such manner that each of the data values is defined by a difference between the sequence values of two adjoining subsequences from corresponding parts of the sequence portions in the coding pattern.

Claim 15. (Original)

The system of claim 14, wherein the sequence portions also code at least part of a position value which defines a serial number of the sequence portion.

Claim 16. (Original)

The system of claim 10, wherein the non-sequential data comprises characters and wherein the characters are converted into data values.

Claim 17. (Original)

The system of claim 10, wherein the product comprises at least one of the following: a sheet of paper, a book cover, a page of a book, a magazine cover, a magazine page, a newspaper page, and a bulletin board.

Claim 18. (Cancelled)

Claim 19. (Cancelled)

Claim 20. (Cancelled)

Claim 21. (Cancelled)

Claim 22. (Cancelled)

Claim 23. (Cancelled)

Claim 24. (Cancelled)

Claim 25. (Previously Presented)

An apparatus for optically recording information, comprising:

an image sensor adapted to optically record an image from a surface; and

a processor configured to convert the image into non-sequential data, the image comprising a predetermined number of subsequences with symbols, each of the subsequences uniquely and unambiguously corresponding to a position in a predetermined sequence which is arranged in such manner that an arbitrary subsequence of a predetermined magnitude is unique within the sequence and unambiguously defines a position in the sequence.

Claim 26. (Original)

The apparatus of claim 25, further comprising a display adapted to show the data.

Claim 27. (Original)

The apparatus of claim 25, further comprising a loudspeaker adapted to transmit sounds corresponding to the data.

Claim 28. (Original)

The apparatus of claim 25, wherein the processor is further configured to convert the symbols into subsequences with values, to convert the subsequences with values into sequence values, to calculate difference values as the difference between the sequence values, to convert the difference values into data values, and to convert the data values into data.

Claim 29. (Original)

The apparatus of claim 28, wherein at least one of the difference values is used to determine relative positions of the subsequences.

Claim 30. (Original)

The apparatus of claim 29, wherein the relative position of the subsequences is used to decide whether data corresponding to a data value has been previously recorded.

Claim 31. (Cancelled)

Claim 32. (Cancelled)

Claim 33. (Previously Presented)

A system for processing optical information, the system comprising:
a memory for storing computer-executable instructions; and
a processor functionally coupled to the memory for executing the
computer-executable instructions operable for:

recording an input signal corresponding to an image, the image
comprising a predetermined number of subsequences with symbols, each of
the subsequences unambiguously corresponding to a position in a
predetermined sequence which is arranged in such manner that an arbitrary
subsequence of a predetermined magnitude is unique within the sequence and
unambiguously defines a position in the sequence, and

converting the predetermined number of subsequences into non-
sequential data.

Claim 34. (Original)

The system of claim 33, wherein the computer-executable instructions
cause the data to be presented on a display unit.

Claim 35. (Original)

The system of claim 33, further comprising a loudspeaker adapted to
transmit sounds corresponding to the data.

Claim 36. (Previously Presented)

A computer-readable memory medium, having computer-executable modules, comprising:

a component for recording an input signal corresponding to an image including a predetermined number of subsequences with symbols; and

a component for converting the predetermined number of subsequences into data by determining the unique and unambiguous position of each of the subsequences in a predetermined sequence which is arranged in such manner that an arbitrary subsequence of a predetermined magnitude is unique within the sequence and unambiguously defines a position in the sequence, and by converting the positions of the subsequences in the sequence to non-sequential data.

Claim 37. (Original)

The computer-readable memory medium of claim 36, wherein a program causes a computer to output a signal to a display unit for presentation of the data.

Claim 38. (Previously Presented)

A method for storage of non-sequential data, comprising:

using a coding pattern for storage of text, said coding pattern comprised of sequence portions with symbols which each include at least a subsequence of a sequence which is arranged in such manner that an arbitrary subsequence

of a predetermined magnitude of the sequence is unique within the sequence and unambiguously defines the position of the subsequence in the sequence.

Claim 39. (Previously Presented)

A method for storage of non-sequential data, comprising:

converting the non-sequential data into a set of data values;

coding the non-sequential data coding the data values to a coding pattern by means of at least one sequence with symbols, in which sequence any arbitrary subsequence of a predetermined magnitude of the sequence is unique and unambiguously defines a position of the subsequence in the sequence, the coding pattern being arranged so as to comprise sequence portions of said at least one sequence, said sequence portions being at least of the same magnitude as the subsequences of a predetermined magnitude, wherein the sequence portions also code at least part of a position value which defines a serial number of the sequence portion; and

reproducing the coding pattern on a product.

Claim 40. (Cancelled)

Claim 41. (Previously Presented)

The method of claim 1, further comprising coding position indications in the coding pattern.

Claim 42. (Previously Presented)

The method of claim 1, further comprising coding a position sequence in said coding pattern, which position sequence indicates positions in the coding pattern, and which has the characteristic that an arbitrary subsequence of a predetermined magnitude of the position sequence uniquely and unambiguously defines a position of the subsequence in the position sequence.

Claim 43. (Previously Presented)

The method of claim 42, wherein the position sequence indicates absolute positions of the subsequences in the intended reading direction of the coding pattern.

Claim 44. (Cancelled)

Claim 45. (Cancelled)

Claim 46. (Previously Presented)

The system of claim 33, wherein the computer-executable instructions are further operable for decoding position indications for the non-sequential data from the subsequences in the image.

Claim 47. (Previously Presented)

The computer-readable memory medium of claim 36, wherein the computer-executable modules further comprises a component for decoding position indications for the non-sequential data from the subsequences in the image.

Claim 48. (Previously Presented)

The method of claim 38, wherein said sequence portions code a position sequence, which position sequence indicates positions along an intended reading direction of the coding pattern, and which position sequence has the characteristic that an arbitrary subsequence of a predetermined magnitude of the position sequence uniquely and unambiguously defines a position of the subsequence in the position sequence.